markable exactness most of the features above described. In order to explain the vigour and purity of the colour reflected in certain crystals, it is necessary to suppose that there are a considerable number of twin surfaces disposed at approximate equal intervals. At each angle of incidence there would be a particular wave-length for which the phases of the several reflections are in agreement. The selection of light of a particular wave-length would thus take place upon the same principle as in diffraction spectra, and might reach a high degree of perfection.

In illustration of this explanation an acoustical analogue is exhibited. The successive twin planes are imitated by parallel and equi-distant disks of muslin (Figs. 1 and 2) stretched upon brass rings and mounted (with the aid of three lazy-tongs arrangements), so that there is but one degree of freedom to move, and that of such a character as to vary the interval between the disks without disturbing their equi-distance and parallelism.

The source of sound is a bird-call, giving a pure tone of high pitch (inaudible), and the percipient is a high-pressure flame issuing from a burner so oriented that the direct waves are without influence upon the flame (see NATURE, xxxviii. 208; Proc. Roy. Inst., January 1888). But the waves reflected from the muslin arrive in the effective direction, and if of sufficient intensity induce flaring. The experiment consists in showing that the action depends upon the distance between the disks. If the distance be such that the waves reflected from the several disks co-operate,[1] the flame flares, but for intermediate adjustments recovers its equilibrium. For full success it is necessary that the reflective power of a single disk be neither too great nor too small. A somewhat open fabric appears suitable.

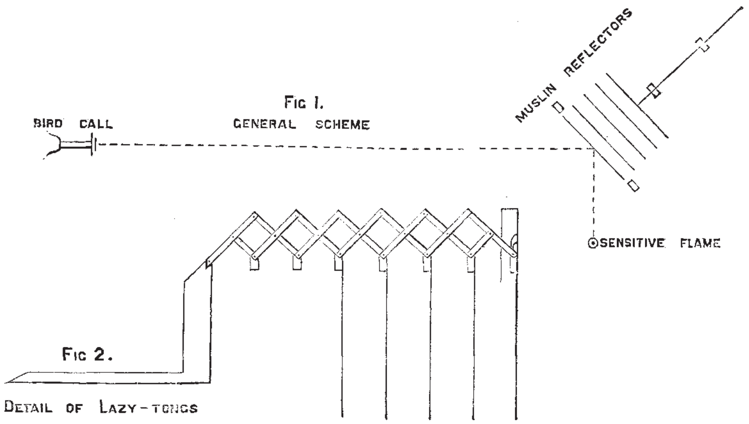
Fig 1.

Fig 2.

Detail of Lazy-tongs

It was shown by Brewster that certain natural specimens of Iceland spar are traversed by thin twin strata. A convergent beam, reflected at a nearly grazing incidence from the twin planes, depicts upon the screen an arc of light, which is interrupted by a dark spot corresponding to the plane of symmetry. [Shown.] A similar experiment may be made with small rhombs in which twin layers have been developed by mechanical force after the manner of Reusch.

The light reflected from fiery opals has been shown by Crookes to possess in many cases a high degree of purity, rivalling in this respect the reflection from chlorate of potash. The explanation is to be sought in a periodic stratified structure. But the other features differ widely in the two cases. There is here no semicircular evanescence, as the specimen is rotated in azimuth. On the contrary, the coloured light transmitted perpendicularly through a thin plate of opal undergoes no change when the gem is turned round in its own plane. This appears to prove that the alternate states are not related to one another as twin crystals. More probably the alternate strata are of air, as in decomposed glass. The brilliancy of opals is said to be readily affected by atmospheric conditions.

NOTES.

THE thirty-eighth meeting of the American Association for the Advancement of Science will be held at Toronto. On Tuesday, August 27, at noon, a meeting of the Council will be held at the Queen's Hotel, where will be the hotel head-quarters of the Association. On Wednesday, August 28, the first general session will begin at 10 o'clock in the forenoon in the Convocation Hall, University Buildings. After the adjournment of the general session, the several Sections will organize. In the afternoon the Vice-Presidents will give their addresses before their respective Sections, and in the evening there will be a general session, when the retiring President, Major J. W. Powell, will deliver his address. The sessions will continue until the Tuesday evening following, and on Wednesday morning, September 4, a meeting of the Council will be held. Saturday, August 31, will be devoted to excursions. The meeting will close with excursions extending to September 7. The general sessions and the meetings of the Sections will be held in the University Buildings, where also will be the offices of the local committee and of the permanent secretary during the meeting. *Science* states that arrangements have been made for a discussion in Section B on the "Relative Merits of the Dynamometric and Magnetic Methods of obtaining Absolute Measurements of Electric Currents." Prof. Thomas Gray, of the Rose Polytechnic Institute, will open the discussion with a paper on the subject, and he will exhibit one or more of Sir William Thomson's most recent forms of electric balance. Arrangements have been made by the local committee for the proper care and exhibition of instruments and specimens.

EFFORTS are being made by the American Association for the Advancement of Science to form a National Chemical Society, with its head-quarters at Washington. A meeting will be held to consider the matter during the session of the American Association at Toronto.

THE annual general meeting of the Marine Biological Association was held in the rooms of the Royal Society on the 26th ult. In the absence of Prof. Huxley, the chair was taken by Sir E. Bowman, and there were present, among others, Lord

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[1] If the reflection were perpendicular, the interval between successive disks would be equal to the half wave-length, or to some multiple of this.

Walsingham, Prof. Flower, Prof. E. Ray Lankester, Admiral Sir Erasmus Ommanney, Mr. Gassiott, and Mr. Crisp. The report of the Council shows that a most satisfactory amount of work has been done at Plymouth since the Laboratory was opened at the end of June last year. Studies on various matters connected with the fishing industry are being carried on under the instructions of the Council, the most important being the study of the life-history of the common sole, by Mr. Cunningham, and an investigation on the sense-organs of fishes, by Mr. Bateson, which it is expected will throw new light on the bait question. Other naturalists, among whom Mr. Weldon may be specially mentioned, have utilized the Laboratory for carrying on independent biological researches, and much valuable work is being done. The Director of the Laboratory (Mr. Bourne) reports that the arrangements at the Laboratory are very satisfactory, and that the arrangements for the circulation of sea-water in the aquarium have worked well during the year. A substantial increase has been made in the library, a complete set of the *Challenger* publications, presented by the Lords Commissioners of the Treasury, being the most noticeable addition to its shelves. With one exception, the officers, Vice-Presidents, and Council, are the same as last year. Mr. Crisp has been compelled by increasing pressure of work to resign the post of Hon. Treasurer, which he has held with so much profit to the Association since its foundation. His place is taken by Mr. E. L. Beckwith, formerly a Prime Warden of the Fishmongers' Company, and Mr. Crisp retires to the Council *vice* Mr. W. Caine, M.P.

The Council of the Library Association has decided to hold the twelfth annual meeting of the Society in London during the second week in September. The Masters of the Bench of Gray's Inn have placed their Hall, for the third time, at the disposal of the Association.

On the night of June 15, about 10 p.m., there was a shock of earthquake, accompanied by a heavy subterranean rumbling, in the villages around Lake Arresö, in Denmark. Windows rattled and furniture oscillated, and in one place people ran out, believing that a powder-mill had exploded. The sound seemed to come from the east.

On June 12, at 11.16 p.m., a brilliant orange-coloured meteor was seen at Copenhagen. It radiated at τ Leonis, moving slowly towards β Virginis, where it burst into many fragments. It was accompanied by a tail, pointed at the end, about 2° in length.

In 1886 the Prince of Monaco, wishing to study the course of the Gulf Stream, threw into it some copper flasks from the *Hirondelle*. Three of these flasks have come ashore on the south coast of Iceland, two near the Ö Mountains, in the Rangárvall district, and the third at Flöj, in the Arnaes district.

It appears that the meteoric stone found in Scania, and acquired by Baron Nordenskiöld for the National Museum at Stockholm (p. 179), fell on April 6, and that its fall was accompanied by a red flash like lightning and a thunder-like detonation. It weighs 11 kilogrammes, and had made a hole 30 centimetres in depth; but, having recoiled, it lay on the level ground at the edge of the hole. The colour is greyish-black, and the fracture greyish-white. From a hasty analysis made by Herr A. Wingårdh, of Helsingborg, the chief mass appears to consist of manganese, in which are yellow and grey particles of metal. The meteorite seems to have been in a red-hot state, being covered with a glazed coating of fused metal half a millimetre in thickness.

Through the efforts of Dr. Filip Trybom, the Swedish Oyster-culture Society is attempting to acclimatize the American oyster, imported from Connecticut, in several places along the coast of the province of Bohus. The young oysters seem to thrive well.

The Norwegian cod-fishery in Finmarken this spring has been above the average, viz. 16,000,000 fish, against 9,000,000 last year. In Lofoten the fishery was a good average one, yielding 20,000,000 fish. Here the shoals congregated off the fishing-bank, in deep water, some five to ten miles from the shore.

On both sides of the Jösen Fjord, on the west coast of Norway, mountains rise perpendicularly to a height of several thousand feet. One morning, some days ago, stones and rocks, some of which are said to have been as large as a house, began to fall on the western side of the fjord. The avalanche continued for over two hours, accompanied by a noise heard 10 miles distant. A black cloud settled over the fjord, the water of which was in terrible commotion for many hours.

At a recent meeting of the Scientific Society of Copenhagen, Prof. Steenstrup gave an account of the results of his examination, last year, of the great mammoth deposit at Predmost, in Moravia. Dr. Wankel and Prof. Maschka, who have devoted much attention to the subject, are of opinion that the mammoths whose remains are found in this district were killed by man, and that their bodies were dragged thither to be eaten. Prof. Steenstrup, on the contrary, holds that the mammoths themselves sought the locality, and that they must have died from want of water, or from some other cause with which man had nothing to do. The splits in the remains are due, he thinks, to the action of water and sand, and afford no support to the notion that the knuckles were cleft for the sake of the marrow. It is certain that some of the bones have been exposed to the action of fire; but Prof. Steenstrup maintains that the traces of fire may be due to the fact that fires were at one time lighted upon them. On some of them, decorative lines have been scratched, but these may have been made long after the mammoth was extinct in Moravia. The lines, according to Prof. Steenstrup, are identical with the ornamentation of pottery of the Neolithic Age.

Mr. Bosworth-Smith, in a report on the Kolar Gold Field, in Southern India, issued by the Madras Government, records some "finds" of old mining implements, old timbering, fragments of bones, an old oil lamp, and broken pieces of earthenware, including a crucible, the remains of ancient mining operations. He expresses astonishment at the fact that the old miners were able to reach depths of 200 or 300 feet through hard rock, with the simple appliances at their command; and he describes the method which he thinks they pursued, sinking pits at short distances from each other, and leaving a "bar" between to prevent falling in.

Herr Richard Andree has issued a new series of his ethnographical parallels and comparisons. Ten years ago the first series appeared, and now, as then, the system pursued is to select a particular topic and then range over the whole literature of ethnology in search of references to the particular subject and collate them, until, finally, an ethnological monograph on the topic in question is produced. This method of work is of course exceedingly laborious, but it has the merit of being exhaustive and effective. Single subjects are thus worked out, and the results published in some scientific periodical; as soon as one is concluded another is taken up, and so on. By and by material for a volume is accumulated, the various subjects are brought up to date, and the public gets a work on ethnology, conceived on a novel plan, and full of interest. Each topic is pursued all over the earth, from country to country, with marvellous industry. The present volume deals with such topics as red hair, albinos, games, masks, marks of property, superstitions connected with the chase, "tree and man," circumcision, drawing amongst primitive peoples, thunderbolts, money for the dead, emotional expressions and gestures, demoniacs and mental disorders, &c.

The latest number of the Journal of the Asiatic Society of Bengal (vol. lvii. part ii. No. 4) contains, among other papers, some interesting notes, by Prof. J. Wood Mason, on objects from a Neolithic settlement recently discovered by Mr. W. H. P. Driver, at Ranchi, in the Chota Nagpore district. Among the objects described, and represented on plates, are some chisel-edged arrow-heads similar to those which have been found in Egyptian tombs—in several cases still secured by bitumen to the shaft—and on Neolithic sites in different parts of Europe, including the British Isles.

The Trustees of the Indian Museum, Calcutta, have issued the first number of a Catalogue, by Prof. J. Wood Mason, of the Mantodea, with descriptions of new genera and species, and an enumeration of the specimens, in the collection of the Museum. This number consists of 48 pages, and is illustrated with 34 woodcuts.

We have to welcome the first report on Greek climate published in Greek by Prof. Sp. E. Marinos, of Corfu. Some meteorological reports relating to Greece have at times appeared in the Proceedings of the Society Parnassus at Athens, but these have mostly emanated from the late Baron Sina's observatory, directed by Dr. Schmidt, have related to Attica, and have been published in German. The present paper is a short notice of the records of Corfu for 1887 and 1888.

The Annual Report of the Director of the Mauritius Observatory for the year 1887 shows that the mean temperature of the year was 1°·4 below the average, and that the temperature was below the average in every month, the greatest deviation being 2°·5 in August. No storm passed near the island, which has not been visited by a hurricane since March 1879. During the year 1887 the velocity of thirty miles an hour was reached only once, in June. Rainfall is recorded at seventy-five stations, and Dr. Meldrum states that the comparisons made during the last ten years show conclusively that there is a close connection between the rainfall and the malarial fever on the low lands.

In his last Meteorological Report for India, Mr. Elliot, referring to sun-spots and weather in India—a subject which has been frequently mentioned in these Reports—says:—"So far as India is concerned, it would appear that it is the period of minimum sun-spots which is associated with the largest and most abnormal variations of meteorological conditions and actions. Thus, exceptionally heavy snow fell in the North-West Himalayas in the winter of 1866, and again in 1876 and 1877. The latter is to some extent described in the Annual Reports on the meteorology of India for these two years. Again, the most striking and disastrous famines of recent years in India have occurred near the period of minimum sun-spots; as, for example, the Orissa famine of 1866, the Behar famine of 1874, and the Madras famine in 1876–77. Similarly, there is a clearly marked tendency for the largest and most intense cyclones to occur shortly before the period of minimum sun-spots; as, for example, the great Calcutta cyclone of 1864, in which 60,000 people were drowned by the storm-wave, and the still larger Backerganj cyclone of 1876, in which 100,000 lives were lost by drowning. As we are now approaching or passing through the same phase of the sun-spot period, it is interesting to inquire whether there are any large abnormal variations common to the present period of minimum sun-spots, and the previous corresponding periods of 1865–66 and 1876–77."

The Manchester Microscopical Society has published its ninth Annual Report, with a Presidential address, by Prof. Milnes Marshall, on "Inheritance," and a lecture, by Prof. W. Stirling, on "Electrical Phenomena in Animals." The volume also contains many papers and communications by members of the Society.

The new number of the *Mineralogical Magazine* opens with a valuable paper, by Mr. Fletcher, on crystals of percylite, caracolite, and an oxychloride of lead (daviesite) from Mina Beatriz, Sierra Gorda, Atacama. The number also contains, besides some shorter papers, an article by Prof. Judd, on the processes by which a plagioclase felspar is converted into a scapolite.

The ninth part of Cassell's "New Popular Educator" has just been published. It contains a good map of the world, showing isothermal lines, and the distribution of races and vegetation.

The first twelve numbers of *Life Lore*, a monthly magazine of biology, have now been collected in a volume, a copy of of which has been sent to us. The volume contains many brightly-written articles, and should do much to excite the interest of young readers in the more popular aspects of biological science.

Prof. Milton Whitney, Professor of Agriculture and Vice-Director of the Experiment Station of the University of South Carolina, has devised a modification of Six's thermometer for soil temperature. The bulb is 6 inches long, protected by a metallic cylinder perforated with many holes, and is buried in the soil, so that the bulb shall extend from 3 to 9 inches below the surface of the soil—the maximum and minimum scale being of course above the soil, and arranged very much as in the ordinary Six's form. The long bulb allows a good height of scale, while it is narrow enough to respond readily to changes of temperature. In a series of readings the instrument gives exactly the mean of the readings of a 3-, 6-, and 9-inch thermometer of the usual form placed beside it at these respective depths in the soil, besides recording the maximum and minimum temperatures. This length of bulb and depth in the soil was decided on, as it is assumed to be the depth which contains most of the roots of the ordinary cultivated plants. The instrument need only be read once a day, and saves an immense amount of calculation and tabulation attending the tri-daily readings of the 6 to 8 instruments comprising the set of the usual form.

The Russian Geographical Society is now publishing its Memoirs in parts, each of which contains a separate paper, and is circulated as soon as the paper has been printed. The last parts of the "Memoirs of General Geography" contain the following interesting papers:—"The Agricultural Meteorological Observations in Russia in 1885 and 1886," by Dr. Woeikof, being the observations made at fifty-one different stations in accordance with a scheme issued by the Geographical Society; "On Barometrical Observations at Distant Stations and during Journeys," by R. N. Savelieff; "On the Measures taken in Western Europe for consolidating Shifting Sands, and growing Bushes and Trees upon them," by S. Rauner; and "On the Comparison between Normal Barometers of the Principal Meteorological Stations of Europe," by P. Brounow. It appears that the corrections to be applied to the pressures shown by the barometers of the following stations are as follows (the normal barometer at St. Petersburg being taken for zero):—Berlin, − 0·02 millimetres; Hamburg, − 0·39; Utrecht, − 0·32; Brussels, + 0·23; Paris, + 0·11; Sèvres (Bureau International des Poids et Mesures), + 0·10; Zurich, − 0·06; Vienna, + 0·11.

In a communication lately made to the Russian Geographical Society, General Annenkoff insisted upon the possibility of the

Transcaspian region being colonized. He pointed out that the girdle of loess which encircles the mountains is quite as productive as the loess in China. The climate is, of course, quite different—not so much on account of the want of rain (the amount of rain at Merv, during the winter months of 1885-86, reached the very high figure of 1654 millimetres), as on account of its absence during the summer months. But the rivers of the region—the Amu, the Tejen, and the Murghab—if their waters were utilized for irrigation, instead of being lost in the sandy deserts, would supply the amount of water necessary for irrigating immense tracts of land. All that is wanted to make of Central Asia a rich oasis of agriculture is human labour and human intelligence. The soil, when irrigated, is not inferior in fertility to the fertile loess fields of China.

THE Inspector-General of Indian Affairs in Canada, in his Report for the past year, urges the continuation of the policy of amalgamating the Canadian Indians as far as possible with the surrounding population, especially by inducing them to adopt agriculture and handicrafts, so that they may acquire a taste for a settled life. The Indians of the Province of Ontario seem to be most successful in reaching this end, and in all cases the tribes show an increase in numbers. There were no serious disturbances during the year, and the only excitement was produced amongst the natives on the Upper Skeena, in British Columbia, owing to the arrest and execution of one of their number for murder. The total number of Indians in the Dominion is given at 124,589; of these, 37,944 are in British Columbia, 26,368 in Manitoba and the North-Western Territory, 17,700 in Ontario, 12,465 in Quebec, 8000 in Athabasca, 7000 in the Mackenzie district, 4016 in Eastern Rupert's Land, 4000 on the Arctic coasts, 2145 in New Scotland, 2038 in the Peace River district, 1594 in New Brunswick, 1000 in the interior of Labrador, and 319 in Prince Edward's Island. 6127 Indian' youths and girls attend the schools provided for them, nearly half the pupils belonging to Manitoba and the North-Western Territories; of the 956,000 dollars appropriated for native affairs, the same districts received 876,000 dollars. 21,344 acres of the land set apart for the improvement of Indians were alienated during the year, and 458,283 acres still remain.

THE additions to the Zoological Society's Gardens during the past week include a Black-headed Lemur (*Lemur brunneus* ♂) from Madagascar, presented by Mr. Charles C. Stewart; four Angora Goats (*Capra hircus*, var., ♂ ♀ ♀ ♀) from Barrol, Cape Colony, presented by Messrs. Theophilus Bros.; a Two-spotted Paradoxure (*Nandinia binotata*) from West Africa, presented by Mr. Philip Lemberg; a Ring-necked Parrakeet (*Palæornis torquatus*, yellow var.) from India, presented by Colonel C. Swinhoe; a Common Kestrel (*Tinnunculus alaudarius*), British, presented by Master W. P. Teil; two Goshawks (*Astur palumbarius*), European, deposited; a —— Lemur (*Hapalemur*, sp. inc.) from Madagascar, two Undulated Grass Parrakeets (*Melopsittacus undulatus*) from Australia, purchased; a Thar (*Capra jemlaica*), two Mule Deer (*Cariacus macrotis* ♂ ♂), three American Wild Turkeys (*Meleagris gallo-pavo*), bred in the Gardens.

OUR ASTRONOMICAL COLUMN.

ASTRONOMICAL SOCIETY OF THE PACIFIC.—The second of the publications of this Society has appeared, containing an address delivered before the Society on March 30, 1889, by the President, Prof. Holden, on "The Work of an Astronomical Society." Prof. Holden sketched the state of astronomical science in England immediately prior to the foundation of the Royal Astronomical Society, and quoted freely from its first paper as showing the spirit which should inspire similar organizations elsewhere. The points Prof. Holden especially put forward as to be attained by the new body were the publication of observations, the guidance of amateur workers, especially those who were skilled photographers, the instruction of learners, the formation of an astronomical library, together with all the advantages resulting from free discussion, and the friendly interchange of ideas. The address was able, straightforward and unpretentious, and concludes with the recommendation, "Whatever we do, let us do thoroughly. Whatever we say, let it be well considered. Let us clearly understand the objects for which we are organized, and let us pursue these with entire confidence." With these principles for its guidance, the new Society will not fail of an honourable and useful career.

A NEW COMET.—A new comet was discovered by Mr. E. E. Barnard (Lick Observatory) on June 23·9499 G.M.T., R.A. 20° 13′ 21″, N.P.D. 51° 9′ 16″; daily motion, R.A. + 1° 6′, N.P.D. − 0° 34′. The comet was only faint.

ASTRONOMICAL PHENOMENA FOR THE WEEK 1889 JULY 7-13.

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on July 7

Sun rises, 3h. 55m.; souths, 12h. 4m. 40·0s.; daily increase of southing, 9·5s.; sets, 20h. 15m.: right asc. on meridian, 7h. 7·3m.; decl. 22° 33′ N. Sidereal Time at Sunset, 15h. 19m.

Moon (Full on July 12, 21h.) rises, 13h. 46m.; souths, 19h. 16m.; sets, 0h. 34m.*: right asc. on meridian, 14h. 19·8m.; decl. 8° 49′ S.

Planet.	Rises.		Souths.		Sets.		Right asc. and declination on meridian.			
	h.	m.	h.	m.	h.	m.	h.	m.	°	′
Mercury..	2	49 ...	10	40 ...	18	31 ...	5	42·3 ...	19	44 N.
Venus.....	1	18 ...	8	51 ...	16	24 ...	3	53·4 ...	16	46 N.
Mars......	3	21 ...	11	41 ...	20	1 ...	6	43·5 ...	23	55 N.
Jupiter....	19	9 ...	23	3 ...	2	57*...	18	7·6 ...	23	18 S
Saturn....	6	55 ...	14	24 ...	21	53 ...	9	26·8 ...	16	14 N.
Uranus ...	12	33 ...	18	4 ...	23	35 ...	13	7·1 ...	6	28 S.
Neptune..	1	16 ...	9	5 ...	16	54 ...	4	7·6 ...	19	18 N.

* Indicates that the setting is that of the following morning.

July.	h.	
10 ...	8 ...	Venus at greatest elongation from the Sun, 46° west.
11 ...	14 ...	Jupiter in conjunction with and 0° 52′ south of the Moon.
12 ...	10 ...	Mercury at greatest elongation from the Sun, 21° west.
12 ...	— ...	Partial eclipse of the Moon; first contact with shadow, 19h. 43m.; middle of eclipse, 20h. 54m.; last contact with shadow, 22h. 5m. In England the Moon rises generally before the middle of eclipse.

Saturn, July 7.—Outer major axis of outer ring = 37″·4; outer minor axis of outer ring = 9″·2: southern surface visible.

Variable Stars.

Star.	R.A.		Decl.				h.	m.	
	h.	m.	°	′					
U Cephei	0	52·5 ...	81	17 N. ...	July	9,	21	25	*m*
S Ursæ Majoris ...	12	39·1 ...	61	42 N. ...	,,	11,			*m*
W Ophiuchi... ...	16	15·4 ...	7	26 S. ...	,,	8,			*M*
U Ophiuchi... ...	17	10·9 ...	1	20 N. ...	,,	8,	0	5	*m*
					,,	13,	0	51	*m*
X Sagittarii... ...	17	40·6 ..	27	47 S. ...	,,	7,	23	0	*M*
Y Sagittarii... ...	18	14·9 ...	18	55 S. ...	,,	11,	3	0	*m*
β Lyræ...	18	46·0 ...	33	14 N. ...	,,	12,	1	0	*M*
R Aquilæ	19	1·0 ...	8	4 N. ...	,,	12,			*m*
S Sagittæ	19	51·0 ...	16	20 N. ...	,,	10,	0	0	*m*
R Sagittæ	20	9·0 ...	16	23 N. ...	,,	12,			*m*
V Cygni	20	37·7 ...	47	45 N. ...	,,	10,			*M*
T Vulpeculæ ...	20	46·8 ...	27	50 N. ...	,,	13,	2	0	*m*
R Vulpeculæ ...	20	59·5 ...	23	23 N. ...	,,	10,			*m*
δ Cephei	22	25·1 ...	57	51 N. ...	,,	13,	22	0	*M*

M signifies maximum; *m* minimum.

Meteor-Showers.

	R.A.	Decl.	
Near 96 Herculis	270° ...	21° N. ...	Very slow.
	280 ...	14 S. ...	Slow.
,, π Cygni...	330 ...	36 N. ...	Swift; red streaks.
,, ι Andromedæ ...	352 ...	40 N. ...	Swift.